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RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/965,830

DATE: 01/08/2002
 TIME: 14:41:35

Input Set : N:\Crf3\RULE60\09965830.raw
 Output Set: N:\CRF3\01082002\I965830.raw

1 <110> APPLICANT: Yamanouchi Pharmaceutical Co., Ltd.
 2 <120> TITLE OF INVENTION: A novel potassium channel protein
 3 <130> FILE REFERENCE: Y9903-PCT
 4 <140> CURRENT APPLICATION NUMBER: 09/965,830
 5 <141> CURRENT FILING DATE: 2001-10-01
 6 <150> PRIOR APPLICATION NUMBER: 09/600,776
 7 <151> PRIOR FILING DATE: 2000-07-21
 8 <150> PRIOR APPLICATION NUMBER: JP P1998-346198
 9 <151> PRIOR FILING DATE: 1998-12-04
 10 <160> NUMBER OF SEQ ID NOS: 12
 11 <170> SOFTWARE: PatentIn Ver. 2.0
 13 <210> SEQ ID NO: 1
 14 <211> LENGTH: 3323
 15 <212> TYPE: DNA
 16 <213> ORGANISM: Homo sapiens
 17 <220> FEATURE:
 18 <221> NAME/KEY: CDS
 19 <222> LOCATION: (6)..(3257)
 20 <400> SEQUENCE: 1
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 1 5 10 15
 gac acc atc gct acg cgc ttc gac ggc acg cac agt aac ttc gtg ctg 98
 Asp Thr Ile Ala Thr Arg Phe Asp Gly Thr His Ser Asn Phe Val Leu
 20 25 30
 ggc aac gcc cag gtg gcg ggg ctc ttc ccc gtg gtc tac tgc tct gat 146
 Gly Asn Ala Gln Val Ala Gly Leu Phe Pro Val Val Tyr Cys Ser Asp
 35 40 45
 ggc ttc tgt gac ctc acg ggc ttc tcc cgg gct gag gtc atg cag cgg 194
 Gly Phe Cys Asp Leu Thr Gly Phe Ser Arg Ala Glu Val Met Gln Arg
 50 55 60
 ggc tgt gcc tcc ttc ctt tat ggg cca gac acc agt gag ctc gtc 242
 Gly Cys Ala Cys Ser Phe Leu Tyr Gly Pro Asp Thr Ser Glu Leu Val
 65 70 75
 cgc caa cag atc cgc aag gcc ctg gac gag cac aag gag ttc aag gct 290
 Arg Gln Gln Ile Arg Lys Ala Leu Asp Glu His Lys Glu Phe Lys Ala
 80 85 90 95
 gag ctg atc ctg tac cgg aag agc ggg ctc ccg ttc tgg tgt ctc ctg 338
 Glu Leu Ile Leu Tyr Arg Lys Ser Gly Leu Pro Phe Trp Cys Leu Leu
 100 105 110
 gat gtg ata ccc ata aag aat gag aaa ggg gag gtg gct ctc ttc cta 386
 Asp Val Ile Pro Ile Lys Asn Glu Lys Gly Glu Val Ala Leu Phe Leu
 115 120 125
 gtc tct cac aag gac atc agc gaa acc aag aac cga ggg ggc ccc gac 434
 Val Ser His Lys Asp Ile Ser Glu Thr Lys Asn Arg Gly Gly Pro Asp
 130 135 140
 aga tgg aag gag aca ggt ggc cgg cgc cga tat ggc cgg gca cga 482

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49	Arg Trp Lys Glu Thr Gly Gly Arg Arg Tyr Gly Arg Ala Arg	
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51	tcc aaa ggc ttc aat gcc aac cgg cgg cgg agc cgg gcc gtg ctc tac	530
52	Ser Lys Gly Phe Asn Ala Asn Arg Arg Ser Arg Ala Val Leu Tyr	
53	160 165 170 175	
54	cac ctg tcc ggg cac ctg cag aag cag ccc aag ggc aag cac aag ctc	578
55	His Leu Ser Gly His Leu Gln Lys Gln Pro Lys Gly Lys His Lys Leu	
56	180 185 190	
57	aat aag ggg gtg ttt ggg gag aaa cca aac ttg cct gag tac aaa gta	626
58	Asn Lys Gly Val Phe Gly Glu Lys Pro Asn Leu Pro Glu Tyr Lys Val	
59	195 200 205	
60	gcc gcc atc cgg aag tcg ccc ttc atc ctg ttg cac tgt ggg gca ctg	674
61	Ala Ala Ile Arg Lys Ser Pro Phe Ile Leu Leu His Cys Gly Ala Leu	
62	210 215 220	
63	aga gcc acc tgg gat ggc ttc atc ctg ctc gcc aca ctc tat gtg gct	722
64	Arg Ala Thr Trp Asp Gly Phe Ile Leu Leu Ala Thr Leu Tyr Val Ala	
65	225 230 235	
66	gtc act gtg ccc tac agc gtg tgt gtg agc aca gca cgg gag ccc agt	770
67	Val Thr Val Pro Tyr Ser Val Cys Val Ser Thr Ala Arg Glu Pro Ser	
68	240 245 250 255	
69	gcc gcc cgc ggc ccc agc gtc tgt gac ctg gcc gtg gag gtc ctc	818
70	Ala Ala Arg Gly Pro Pro Ser Val Cys Asp Leu Ala Val Glu Val Leu	
71	260 265 270	
72	ttc atc ctt gac att gtg ctg aat ttc cgt acc aca ttc gtg tcc aag	866
73	Phe Ile Leu Asp Ile Val Leu Asn Phe Arg Thr Thr Phe Val Ser Lys	
74	275 280 285	
75	tcg ggc cag gtg gtg ttt gcc cca aag tcc att tgc ctc cac tac gtc	914
76	Ser Gly Gln Val Val Phe Ala Pro Lys Ser Ile Cys Leu His Tyr Val	
77	290 295 300	
78	acc acc tgg ttc ctg ctg gat gtc atc gca gcg ctg ccc ttt gac ctg	962
79	Thr Thr Trp Phe Leu Leu Asp Val Ile Ala Ala Leu Pro Phe Asp Leu	
80	305 310 315	
81	cta cat gcc ttc aag gtc aac gtg tac ttc ggg gcc cat ctg ctg aag	1010
82	Leu His Ala Phe Lys Val Asn Val Tyr Phe Gly Ala His Leu Leu Lys	
83	320 325 330 335	
84	acg gtg cgc ctg ctc cgc ctg ctc ctt ccg cgg ctg gac cgg	1058
85	Thr Val Arg Leu Leu Arg Leu Leu Pro Arg Leu Asp Arg	
86	340 345 350	
87	tac tcg cag tac agc gcc gtg gtg ctg aca ctg ctc atg gcc gtg ttc	1106
88	Tyr Ser Gln Tyr Ser Ala Val Val Leu Thr Leu Leu Met Ala Val Phe	
89	355 360 365	
90	gcc ctg ctc gcg cac tgg gtc gcc tgc gtc tgg ttt tac att ggc cag	1154
91	Ala Leu Leu Ala His Trp Val Ala Cys Val Trp Phe Tyr Ile Gly Gln	
92	370 375 380	
93	cgg gag atc gag agc agc gaa tcc gag ctg cct gag att ggc tgg ctg	1202
94	Arg Glu Ile Glu Ser Ser Glu Ser Glu Leu Pro Glu Ile Gly Trp Leu	
95	385 390 395	
96	cag gag ctg gcc cgc cga ctg gag act ccc tac tac ctg gtg ggc cgg	1250
97	Gln Glu Leu Ala Arg Leu Glu Thr Pro Tyr Tyr Leu Val Gly Arg	

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98	400	405	410	415	
99	agg cca gct gga ggg aac agc tcc ggc cag agt gac aac tgc agc agc				1298,
100	Arg Pro Ala Gly Gly Asn Ser Ser Gly Gln Ser Asp Asn Cys Ser Ser				
101	420		425	430	
102	agc agc gag gcc aac ggg acg ggg ctg gag ctg ctg ggc ggc ccg tcg				1346
103	Ser Ser Ala Asn Gly Thr Gly Leu Glu Leu Leu Gly Gly Pro Ser				
104	435		440	445	
105	ctg cgc agc gcc tac atc acc tcc ctc tac ttc gca ctc agc agc ctc				1394
106	Leu Arg Ser Ala Tyr Ile Thr Ser Leu Tyr Phe Ala Leu Ser Ser Leu				
107	450		455	460	
108	acc agc gtg ggc ttc ggc aac gtg tcc gcc aac acg gac acc gag aag				1442
109	Thr Ser Val Gly Phe Gly Asn Val Ser Ala Asn Thr Asp Thr Glu Lys				
110	465		470	475	
111	atc ttc tcc atc tgc acc atg ctc atc ggc ggc ctg atg cac gcg gtg				1490
112	Ile Phe Ser Ile Cys Thr Met Leu Ile Gly Ala Leu Met His Ala Val				
113	480		485	490	495
114	gtg ttt ggg aac gtg acg gcc atc atc cag cgc atg tac gcc cgc cgc				1538
115	Val Phe Gly Asn Val Thr Ala Ile Ile Gln Arg Met Tyr Ala Arg Arg				
116	500		505	510	
117	ttt ctg tac cac agc cgc acg cgc gac ctg cgc gac tac atc cgc atc				1586
118	Phe Leu Tyr His Ser Arg Thr Arg Asp Leu Arg Asp Tyr Ile Arg Ile				
119	515		520	525	
120	cac cgt atc ccc aag ccc ctc aag cag cgc atg ctg gag tac ttc cag				1634
121	His Arg Ile Pro Lys Pro Leu Lys Gln Arg Met Leu Glu Tyr Phe Gln				
122	530		535	540	
123	gcc acc tgg gcg gtg aac aat ggc atc gac acc acc gag ctg ctg cag				1682
124	Ala Thr Trp Ala Val Asn Asn Gly Ile Asp Thr Thr Glu Leu Leu Gln				
125	545		550	555	
126	agc ctc cct gac gag ctg cgc gca gac atc gcc atg cac ctg cac aag				1730
127	Ser Leu Pro Asp Glu Leu Arg Ala Asp Ile Ala Met His Leu His Lys				
128	560		565	570	575
129	gag gtc ctg cag ctg cca ctg ttt gag gcg gcc agc cgc ggc tgc ctg				1778
130	Glu Val Leu Gln Leu Pro Leu Phe Glu Ala Ala Ser Arg Gly Cys Leu				
131	580		585	590	
132	cgg gca ctg tct ctg gcc ctg cgg ccc gcc ttc tgc acg ccg ggc gag				1826
133	Arg Ala Leu Ser Leu Ala Leu Arg Pro Ala Phe Cys Thr Pro Gly Glu				
134	595		600	605	
135	tac ctc atc cac caa ggc gat gcc ctg cag gcc ctc tac ttt gtc tgc				1874
136	Tyr Leu Ile His Gln Gly Asp Ala Leu Gln Ala Leu Tyr Phe Val Cys				
137	610		615	620	
138	tct ggc tcc atg gag gtg ctc aag ggt ggc acc gtc ctc gcc atc cta				1922
139	Ser Gly Ser Met Glu Val Leu Lys Gly Gly Thr Val Leu Ala Ile Leu				
140	625		630	635	
141	ggg aag ggc gac ctg atc ggc tgt gag ctg ccc cgg cgg gag cag gtg				1970
142	Gly Lys Gly Asp Leu Ile Gly Cys Glu Leu Pro Arg Arg Glu Gln Val				
143	640		645	650	655
144	gta aag gcc aat gcc gac gtg aag ggg ctg acg tac tgc gtc ctg cag				2018
145	Val Lys Ala Asn Ala Asp Val Lys Gly Leu Thr Tyr Cys Val Leu Gln				
146	660		665	670	

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147	tgt ctg cag ctg gct ggc ctg cac gac agc ctt gcg ctg tac ccc gag	2066
148	Cys Leu Gln Leu Ala Gly Leu His Asp Ser Leu Ala Leu Tyr Pro Glu	
149	675 680 685	
150	ttt gcc ccg cgc ttc agt cgt ggc ctc cga ggg gag ctc agc tac aac	2114
151	Phe Ala Pro Arg Phe Ser Arg Gly Leu Arg Gly Glu Leu Ser Tyr Asn	
152	690 695 700	
153	ctg ggt gct ggg gga ggc tct gca gag gtg gac acc agc tcc ctg agc	2162
154	Leu Gly Ala Gly Gly Ser Ala Glu Val Asp Thr Ser Ser Leu Ser	
155	705 710 715	
156	ggc gac aat acc ctt atg tcc acg ctg gag gag aag gag aca gat ggg	2210
157	Gly Asp Asn Thr Leu Met Ser Thr Leu Glu Glu Lys Glu Thr Asp Gly	
158	720 725 730 735	
159	gag cag ggc ccc acg gtc tcc cca gcc cca gct gat gag ccc tcc agc	2258
160	Glu Gln Gly Pro Thr Val Ser Pro Ala Pro Ala Asp Glu Pro Ser Ser	
161	740 745 750	
162	ccc ctg ctg tcc cct ggc tgc acc tcc tca tcc tca gct gcc aag ctg	2306
163	Pro Leu Leu Ser Pro Gly Cys Thr Ser Ser Ser Ala Ala Lys Leu	
164	755 760 765	
165	cta tcc cca cgt cga aca gca ccc cgg cct cgt cta ggt ggc aga ggg	2354
166	Leu Ser Pro Arg Arg Thr Ala Pro Arg Pro Arg Leu Gly Gly Arg Gly	
167	770 775 780	
168	agg cca ggc agg gca ggg gct ttg aag gct gag gct ggc ccc tct gct	2402
169	Arg Pro Gly Arg Ala Gly Ala Leu Lys Ala Glu Ala Gly Pro Ser Ala	
170	785 790 795	
171	ccc cca cgg gcc cta gag ggg cta cgg ctg ccc ccc atg cca tgg aat	2450
172	Pro Pro Arg Ala Leu Glu Gly Leu Arg Leu Pro Pro Met Pro Trp Asn	
173	800 805 810 815	
174	gtg ccc cca gat ctg agc ccc agg gta gta gat ggc att gaa gac ggc	2498
175	Val Pro Pro Asp Leu Ser Pro Arg Val Val Asp Gly Ile Glu Asp Gly	
176	820 825 830	
177	tgt ggc tcg gac cag ccc aag ttc tct ttc cgc gtg ggc cag tct ggc	2546
178	Cys Gly Ser Asp Gln Pro Lys Phe Ser Phe Arg Val Gly Gln Ser Gly	
179	835 840 845	
180	ccg gaa tgt agc agc ccc tcc cct gga cca gag agc ggc ctg ctc	2594
181	Pro Glu Cys Ser Ser Pro Ser Pro Gly Pro Glu Ser Gly Leu Leu	
182	850 855 860	
183	act gtt ccc cat ggg ccc agc gag gca agg aac aca gac aca ctg gac	2642
184	Thr Val Pro His Gly Pro Ser Glu Ala Arg Asn Thr Asp Thr Leu Asp	
185	865 870 875	
186	aag ctt cgg cag gcg gtg aca gag ctg tca gag cag gtg ctg cag atg	2690
187	Lys Leu Arg Gln Ala Val Thr Glu Leu Ser Glu Gln Val Leu Gln Met	
188	880 885 890 895	
189	cgg gaa gga ctg cag tca ctt cgc cag gct gtg cag ctt gtc ctg gcg	2738
190	Arg Glu Gly Leu Gln Ser Leu Arg Gln Ala Val Gln Leu Val Leu Ala	
191	900 905 910	
192	ccc cac agg gag ggt ccg tgc cct cgg gca tcg gga gag ggg ccg tgc	2786
193	Pro His Arg Glu Gly Pro Cys Pro Arg Ala Ser Gly Glu Gly Pro Cys	
194	915 920 925	
195	cca gcc agc acc tcc ggg ctt ctg cag cct ctg tgt gtg gac act ggg	2834

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196	Pro Ala Ser Thr Ser Gly Leu Leu Gln Pro Leu Cys Val Asp Thr Gly		
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199	Ala Ser Ser Tyr Cys Leu Gln Pro Pro Ala Gly Ser Val Leu Ser Gly		
200	945 950 955		
201	act tgg ccc cac cct cgt ccg ggg cct ccc ctc atg gca ccc tgg	2930	
202	Thr Trp Pro His Pro Arg Pro Gly Pro Pro Leu Met Ala Pro Trp		
203	960 965 970 975		
204	ccc tgg ggt ccc cca gcg tct cag agc tcc ccc tgg cct cga gcc aca	2978	
205	Pro Trp Gly Pro Pro Ala Ser Gln Ser Ser Pro Trp Pro Arg Ala Thr		
206	980 985 990		
207	gct ttc tgg acc tcc acc tca gac tca gag ccc cct gcc tca gga gac	3026	
208	Ala Phe Trp Thr Ser Thr Ser Asp Ser Glu Pro Pro Ala Ser Gly Asp		
209	995 1000 1005		
210	ctc tgc tct gag ccc agc acc cct gcc tcc cct cct tct gag gaa	3074	
211	Leu Cys Ser Glu Pro Ser Thr Pro Ala Ser Pro Pro Ser Glu Glu		
212	1010 1015 1020		
213	ggg gct agg act ggg ccc gca gag cct gtg agc cag gct gag gct acc	3122	
214	Gly Ala Arg Thr Gly Pro Ala Glu Pro Val Ser Gln Ala Glu Ala Thr		
215	1025 1030 1035		
216	agc act gga gag ccc cca cca ggg tca ggg ggc ctg gcc ttg ccc tgg	3170	
217	Ser Thr Gly Glu Pro Pro Gly Ser Gly Gly Leu Ala Leu Pro Trp		
218	1040 1045 1050 1055		
219	gac ccc cac agc ctg gag atg gtg ctt att ggc tgc cat ggc tct ggc	3218	
220	Asp Pro His Ser Leu Glu Met Val Leu Ile Gly Cys His Gly Ser Gly		
221	1060 1065 1070		
222	aca gtc cag tgg acc cag gaa gaa ggc aca ggg gtc tga gtaccagccc	3267	
223	Thr Val Gln Trp Thr Gln Glu Glu Gly Thr Gly Val		
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235	20 25 30		
236	Asn Ala Gln Val Ala Gly Leu Phe Pro Val Val Tyr Cys Ser Asp Gly		
237	35 40 45		
238	Phe Cys Asp Leu Thr Gly Phe Ser Arg Ala Glu Val Met Gln Arg Gly		
239	50 55 60		
240	Cys Ala Cys Ser Phe Leu Tyr Gly Pro Asp Thr Ser Glu Leu Val Arg		
241	65 70 75 80		
242	Gln Gln Ile Arg Lys Ala Leu Asp Glu His Lys Glu Phe Lys Ala Glu		
243	85 90 95		
244	Leu Ile Leu Tyr Arg Lys Ser Gly Leu Pro Phe Trp Cys Leu Leu Asp		
245	100 105 110		

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